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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/642,310	08/18/2003	Veeranarayana A. Reddy	FORE-103	2881

7590 05/03/2007

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EXAMINER	
JONES, PRENELL P	

ART UNIT	PAPER NUMBER
2616	

MAIL DATE	DELIVERY MODE
05/03/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/642,310	REDDY ET AL.	
	Examiner	Art Unit	
	Prenell P. Jones	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 August 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) _____ is/are allowed.

6)☐ Claim(s) *1-4 and 13-15* is/are rejected.

7)☐ Claim(s) *5-12 and 16-20* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Claim Objections

1. Claim 9 is objected to because of the following informalities: **In line 2, there is a typo after "framing", which makes the present claim unclear. Appropriate correction is required.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-4 and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kung et al (Non-Patent Literature) in view of Klincewicz et al (US Pat 6,934,259).

Regarding claim 1, 13 and 15, Kung discloses a link-by-link flow control to maximize ATM network performance, where in wherein the architecture includes automatic protection against errors by increasing bandwidth or buffer memory size/memory length, buffer space is proportional to link propagation delay, buffer management, utilizing an N23 flow control scheme that provides desirable functionalities, switching and scheduling of data cells/packets of various VCs, wherein VC buffer memory size (packet memory length stored in buffer memory space) for N23 scheme at each node for various link lengths and VC bandwidths is illustrated (Abstract, Fig. 6, page 1, left col. Paragraphs 2-4, page 3, paragraph, left column, page 5, left and right column), link length being associated with the amount of memory (memory length) is also associated with physical link bandwidth, which is monitored for link utilization (bandwidth usage). Kung is silent on determining link length based on memory length.

In designing a communication system, Klincewicz et al (US Pat 6,934,259) designing a network wherein the architecture includes utilizing determining link lengths and traffic routing, which is based on traffic routing, link lengths are determined to re-route traffic, link length determination can be based on total bandwidth of VC, and link utilization, marginal cost/billing of link, and volume of traffic (Abstract, col. 1, line 37-55, col. 3, line 12-58, col. 5, line 50-63, col. 6, line 11-62).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to be motivated to implement determining link length based on memory length as taught by Klincewicz with the teachings of Kung because as shown in Kung the link lengths and memory size are associated in the process of providing flow

control, therefore, it would have been obvious to calculate link length with respect to memory space for the purpose of further obtaining flow control and maximizing ATM/packet network performance.

Regarding claim 2, Kung further teaches utilizing schedulers for scheduling routing of cells associated with link length (page 5, right column).

Regarding claim 3, as indicated above, combined Kung and Klincewicz discloses maximizing ATM network performance and designing a network wherein link length and memory size is associated with providing flow control of cells/packets, whereby link length is calculated by utilizing various parameters. Although Kung utilizes control mechanism, he fails to teach making use of a controller. However, Klincewicz teaches utilizing controllers and routers in a communication network that determines link length based on various parameters or metrics (col. 2, line 50-59).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to be motivated to implement utilizing a controller in determining link lengths as taught by Klincewicz with the teachings of Kung for the purpose of further providing flow control with the utilization link length and maximizing network performance in a packet environment.

Regarding claim 4 and 15, as indicated above, combined Kung and Klincewicz discloses maximizing ATM network performance and designing a network wherein link

length and memory size is associated with providing flow control of cells/packets, whereby link length is calculated by utilizing various parameters. Although Kung utilizes control mechanism, he fails to teach making use of a controller that includes billing functionality. However, Klincewicz teaches utilizing a network design module in conjunction with controllers and routers along with cost/billing for each link.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to be motivated to implement utilizing a controller with cost module in determining link lengths as taught by Klincewicz with the teachings of Kung for the purpose of further providing flow control with the utilization link length and maximizing network performance in a packet environment.

Allowable Subject Matter

4. Claims 5-12 and 16-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. The following is a statement of reasons for the indication of allowable subject matter:

Although the combined cited prior art combined teaches combined Kung and Klincewicz discloses maximizing ATM network performance and designing a network wherein link length and memory size is associated with providing flow control of cells/packets, whereby link length is calculated by utilizing various parameter, utilization

of a control mechanism, a controller that includes billing functionality, and utilizing a network design module in conjunction with controllers and routers along with cost/billing for each link, they fail to teach or suggest with respect to claim 6-12,

$$\textbf{LinkLength} = \left[\{ \text{MemoryLength} - \text{HeaderSize} + \text{MPLSAdj} \} \div \text{FragmentSize} \right] \times \{\textbf{HeaderSize} + \textbf{FrameOverhead}\}$$

$$\{ \text{MemoryLength} - \text{HeaderSize} + \text{MPLSAdj} \} + \text{LastFragmentPad}$$

and; with respect to claims 16-20,

$$\textbf{LinkLength} = \left[\{ \text{MemoryLength} - \text{HeaderSize} \pm \text{MPLSAdj} \} \div \text{FragmentSize} \right] \times \{\textbf{HeaderSize} + \textbf{FrameOverhead}\}$$

$$\{ \text{MemoryLength} - \text{HeaderSize} \pm \text{MPLSAdj} \} + \text{LastFragmentPad}$$

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prenell P. Jones whose telephone number is 571-272-3180. The examiner can normally be reached on 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on 571-272-3179. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Prenell P. Jones
April 26, 2007

CHI PHAM
SUPERVISORY PATENT EXAMINER
4/30/07